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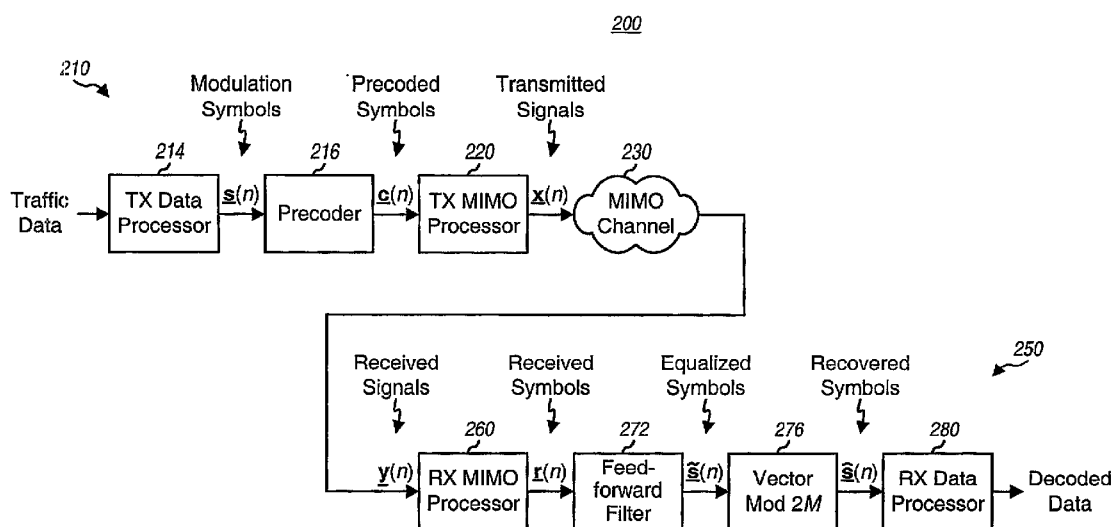
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(54) Title: PRECODING FOR A MULTIPATH CHANNEL IN A MIMO SYSTEM



(57) Abstract: Techniques for precoding data for a multipath channel in a MIMO system. In one method, data is coded in accordance with one or more coding schemes to provide coded data, which is further modulated (i.e., symbol mapped) in accordance with one or more modulation schemes to provide modulation symbols. An estimated response of the MIMO channel is obtained (e.g., provided by a receiver), and an equivalent channel response is derived based on the estimated MIMO channel response and a response of a feed-forward filter of a decision feedback equalizer. The modulation symbols are then precoded based on the equivalent channel response to provide precoded symbols, which are further preconditioned based on the estimated MIMO channel response (e.g., using spatio-temporal pulse-shaping) to provide preconditioned symbols for transmission over the MIMO channel. The feed-forward filter may be adapted based on a minimum mean square error (MMSE) criterion.